

Serial No.: 09/845,769 Filed

: May 2, 2001

Page

2 of 19

Amendments to the Specification:

Please replace the paragraph beginning at page 2, line 5 with the following amended paragraph:

Correction mechanisms for some discrete speech recognition systems displayed a list of choices for each recognized word and permitted a user to correct a misrecognition by selecting a word from the list or typing the correct word. For example,

Docket No.: 13865-074001

DRAGONDICTATE™DragonDictate™ for MICROSOFT WINDOWS™Windows™, by Dragon Systems, Inc. of Newton, Massachusetts, displayed a list of numbered recognition candidates ("a choice list") for each word spoken by the user, and inserted the best-scoring recognition candidate into the text being dictated by the user. If the best-scoring recognition candidate was incorrect, the user could select a recognition candidate from the choice list by saying "choose-N", where "N" was the number associated with the correct candidate. If the correct word was not on the choice list, the user could refine the list, either by typing in the first few letters of the correct word, or by speaking words (for example, "alpha", "bravo") associated with the first few letters. The user also could discard the incorrect recognition result by saying "scratch that".

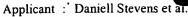
Please replace the paragraph beginning at page 2, line 25 with the following amended paragraph:

New techniques and systems improve error correction in speech recognition. These

techniques and systems may be used in a standard desktop environment, in a mobile environment, or in any other type of environment that can receive and/or present recognized speech. Moreover, the techniques and systems also may leverage the power of continuous speech recognition systems, such as DRAGON NATURALLY SPEAKING TM Dragon Naturally Speaking, TM available from Dragon Systems, Inc. of Newton, Massachusetts, the capabilities of digital recorders and hand-held electronic devices, and the advantages of using a

contact manager or similar system for personal information management.





Serial No.: 09/845,769
Filed: May 2, 2001
Page: 3 of 19

Docket No.: 13865-074001

Please replace the paragraph beginning at page 17, line 18 with the following amended paragraph:

(X)

The control/interface module also controls the active vocabulary, acoustic models, and constraint grammars that are used by the recognizer. For example, when the speech recognition software is being used in conjunction with a particular application (for example, MICROSOFT WORDMicrosoft Word), the control/interface module updates the active vocabulary to include command words associated with that application and activates constraint grammars associated with the application.

Please replace the paragraph beginning at page 19, line 18 with the following amended paragraph:



In the described implementation, the recorder 1405 is a digital recorder having time stamp capabilities. One recorder meeting these criteria is the <u>DRAGON NATURALLY</u>

<u>MOBILE POCKET RECORDER R1Dragon Naturally Mobile Pocket Recorder R1</u>

manufactured for Dragon Systems, Inc., of Newton, Massachusetts by Voice It Worldwide, Inc. In other implementations, the recorder may be a digital recorder lacking time stamp capabilities, or an analog recorder using a magnetic tape.

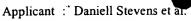
Please replace the paragraph beginning at page 21, line 15 with the following amended paragraph:

To implement the speech recognition and processing functions of the system 1400, the computer 1410 runs interface software 1680, the speech recognition software 1660, a parser 1685, and back-end software 1690. <u>DRAGON NATURALLYSPEAKINGDragon</u>

NaturallySpeaking Preferred Edition 3.1, available from Dragon Systems, Inc. of Newton,

Massachusetts, offers one example of suitable speech recognition software. The interface software 1680 provides a user interface for controlling the transfer of data from the digital recorder and the generation of action items for use by the back-end software 1690. In general,





Serial No.: 09/845,769 : May 2, 2001 Filed

Page : 4 of 19 Docket No.: 13865-074001

the user interface may be controlled using input devices such as a mouse or keyboard, or using voice commands processed by the speech recognition software.

Please replace the paragraph beginning at page 21, line 24 with the following amended paragraph:

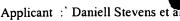
After transferring data from the recorder, the interface software 1680 provides the digital samples for an action item to the speech recognition software 1660. If the digital samples have been stored using compression techniques, the interface software 1680 decompresses them prior to providing them to the speech recognition software. In general, the speech recognition software analyzes the digital samples to produce a sequence of text, and provides this sequence to the interface software 1680. The interface software 1680 then transfers the text and the associated time stamp, if any, to the parser 1685, which processes the text in conjunction with the time stamp to generate a parsed version of the action item. The parser returns the parsed action item to the interface software, which displays it to the user. After any editing by the user, and with user approval, the interface software then transfers the action item to the appropriate back-end software 1690. An example of back-end software with which the system works is personal information management software, such as MICROSOFT OUTLOOK Microsoft Outlook, which is available from Microsoft Corporation of Redmond, Washington. Other suitable back-end software includes contact management software, time management software, expense reporting applications, electronic mail programs, and fax programs.

Please add the following new paragraph after the paragraph ending at page 19, line 12:

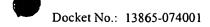
The following Figs. 5-8 illustrate systems that include one or more of the following: a microphone 1505, a mouse 1610, a keyboard 1615, a display 1620, and a console 1625. The microphone 1505 is described below with respect to Fig. 9, and the mouse 1610, keyboard 1615, display 1620, and console 1625 are described below with respect to Fig. 10.

Please delete previous abstract at page 54 and add the following <u>new</u> abstract:





Serial No.: 09/845,769 Filed: May 2, 2001 Page: 5 of 19



KS.

Correcting incorrect text associated with recognition errors in computer-implemented speech recognition includes performing speech recognition on an utterance to produce a recognition result for the utterance. A selection of a word from the recognized utterance is received. The selection indicates a bound of a portion of the recognized utterance to be corrected. A first alternative transcript is compared to the recognized utterance to be corrected, and a first recognition correction is produced based on the comparison. A second alternative transcript is compared to the recognized utterance to be corrected, and a second recognition correction is produced based on the comparison. The duration of the first recognition correction differs from the duration of the second recognition correction. A portion of the recognition result is replaced with one of the first recognition correction and the second recognition correction. The portion of the recognition result replaced includes at one bound a word indicated by the selection and extends for the duration of the one of the first recognition correction and the second recognition correction with which the portion is replaced. The portion of the recognition result replaced includes at least one word from the recognized utterance that was not previously selected for correction by a user.

Applicant : Daniell Stevens et ar.

Serial No.: 09/845,769 : May 2, 2001 Filed

: 6 of 19 Page

19

Docket No.: 13865-074001

Amendment to the Title:

Please replace the title with the following title "Error Correction in Speech Recognition

by Correcting Text Around Selected Area"